

NON-VOLATILE MEMORY AND METHOD OF OPERATION

Abstract

A method of programming and erasing an electrically erasable programmable read-only memory (EEPROM) device includes performing a band-to-band tunneling induced hot-electrons program and performing a Fowler-Nordheim tunneling erase. The EEPROM device includes a P-type transistor, an N-type transistor, and a double gate P-type transistor. A source of the P-type transistor and the N-type transistor are respectively electrically connected to a program bit-line and an erase bit-line. A drain of the double gate P-type transistor is electrically connected to a drain of the P-type transistor and a drain of the N-type transistor.